

Claims

1. A lubricant composition for use in a sliding-vane rotary vane compressor comprising:-
 - a) a polyalkyleneglycol base oil component, said polyalkyleneglycol comprising a random copolymer of ethylene oxide (EO) and propylene oxide (PO) having an EO:PO ratio between 3:1 and 1:3 and having been initiated with a compound having five carbon atoms or less;
 - b) 0.01% to 10% based on total weight of the composition of an antiwear additive;
 - c) 0.05% to 5% based on total weight the composition of an antioxidant;
 - d) 0% to 1% based on total weight the composition of a metal passivator;
 - e) 0% to 2% based on total weight the composition of an anticorrosion agent; and
 - f) 0% to 2% based on total weight the composition of a vapour phase anticorrosion agent.
2. A lubricant composition according to claim 1, in which the polyalkyleneglycol base oil component has a molecular weight such that the kinematic viscosity of the polyalkyleneglycol is at least 10 cSt, more preferably 12 cSt, at the operating temperatures and pressures of the compressor.
3. A lubricant composition according to claim 1 or claim 2, in which the polyalkyleneglycol base oil component has a kinematic viscosity of at least 10 cSt, more preferably 12 cSt at 100°C.
4. A lubricant composition according to claim 1 or claim 2, in which the polyalkyleneglycol base oil component has an EO:PO ratio between 2:1 and 1:2, more preferably between 1.5:1 and 1:1.5, but especially 1:1.
5. A lubricant composition according to claim 1 or claim 2, in which the polyalkyleneglycol base oil component has been initiated with methanol or butanol.
6. A lubricant composition according to claim 1 or claim 2, in which the polyalkyleneglycol base oil component has a viscosity index of at least 150 and, more especially, at least 200.
7. A lubricant composition according to claim 1 or claim 2, in which the polyalkyleneglycol base oil component has a pour point of less than -10°C more preferably less than -20°C and particularly less than -30°C.
8. A lubricant composition according to claim 1 or claim 2, in which the polyalkyleneglycol base oil component has an acid number of less than 0.2 mgKOH/g.

9. A lubricant composition according to claim 1 or claim 2, which is substantially free of viscosity improvers.
10. A lubricant composition according to claim 1 or claim 2, which comprises 0.1% to 5%, more especially 0.5% to 2.5%, based on total weight of the composition of the antiwear additive.
11. A lubricant composition according to claim 1 or claim 2, in which the antiwear additive is selected from phosphates, phosphites, thiophosphates, thiophosphites, dithiocarbamates, amine phosphates and amine phosphates and mixtures thereof.
12. A lubricant composition according to claim 1 or claim 2, which comprise 0.5% to 2.5% based on total weight the composition of the antioxidant.
13. A lubricant composition according to claim 1, in which the antioxidant is selected from high temperature antioxidants and low temperature antioxidants and mixtures thereof.
14. A lubricant composition according to claim 13, in which the high temperature antioxidant is selected from ashless aminic antioxidants alkylated phenyl naphthylamine, alkylated diphenyl amine, polymerized hydroxyquinolines, iminodibenzyl or mixtures thereof.
15. A lubricant composition according to claim 13, in which the low temperature antioxidant is selected from gallates, sterically hindered phenolic and diphenolic antioxidant or mixtures thereof.
16. A lubricant composition according to claim 1 or claim 2, which comprises 0.1% to 0.5% based on total weight the composition of the metal passivator.
17. A lubricant composition according to claim 1 or claim 2, in which the metal passivator is selected from gallates, imidazole, benzimidazole, pyrazole, benzotriazole, toluotriazole, toluotriazole, 2-methyl benzimidazole, 3,5-dimethyl pyrazole, methylene bis-benzotriazole or mixtures thereof.
18. A lubricant composition according to claim 1 or claim 2, which comprises 0.1% to 2%, more especially 0.1% to 0.5%, based on total weight the composition of the anticorrosion additive.
19. A lubricant composition according to claim 1 or claim 2, in which the anticorrosion additive is an ashless anticorrosion additive.
20. A lubricant composition according to claim 1 or claim 2, in which the anticorrosion additive is selected from amine naphthalene sulphonates, amine phosphates, alkenyl succinic half ester, organic polycarboxylic acids or mixtures thereof.
21. A lubricant composition according to claim 1 or claim 2, which comprises 0.05% to 2%, more especially 0.1% to 0.5%, based on total weight the composition of the vapour-phase anticorrosion additive.

22. A lubricant composition according to claim 1 or claim 2, in which the vapour-phase anticorrosion additive is selected from dicarboxylic acids, silicones, siloxanes, silanes, silicates, volatile amines or mixtures thereof.
23. A lubricant composition according to claim 1 or claim 2 which has an acid number of less than 0.5mgKOH/g.
24. A lubricant composition for use in a sliding-vane rotary vane compressor comprising:-
 - a) a polyalkyleneglycol base oil component, said polyalkyleneglycol comprising a random copolymer of ethylene oxide (EO) and propylene oxide (PO) having an EO:PO ratio between 1.5:1 and 1:1.5 and having been initiated by methanol or butanol and having a kinematic viscosity of at least 12 cSt at 100°C;
 - b) 0.01% to 10% based on total weight of the composition of an antiwear additive;
 - c) 0.05% to 5% based on total weight the composition of an antioxidant;
 - d) 0.1% to 1% based on total weight the composition of a metal passivator;
 - e) 0% to 2% based on total weight the composition of an anticorrosion agent; and
 - f) 0% to 2% based on total weight the composition of a vapour phase anticorrosion agent.
25. The use in a sliding-vane rotary vane compressor of a lubricant composition as defined in claim 1 or claim 24.
26. A method of lubricating a rotary vane compressor comprises utilising a lubricant composition as defined in claim 1 or claim 24.
27. A sliding-vane rotary compressor charged with a lubricant composition as defined in claim 1 or claim 24.